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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/696,463	10/30/2003	Ming-Tien Lin	237098US-2	6011

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EXAMINER	
WANG, GEORGE Y	

ART UNIT	PAPER NUMBER
2871	

DATE MAILED: 11/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/696,463	LIN ET AL.	
	Examiner	Art Unit	
	George Y. Wang	2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 September 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-28* is/are pending in the application.

4a) Of the above claim(s) *8-28* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Newly submitted claims 21-28 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:

This application contains claims directed to the following patentably distinct species of the claimed invention:

(1) the specifics of the LCD device comprising a switching element electrically connected to the pixel electrode and a first shielding layer electrically connected to the first gate line, where the first shielding layer is parallel to the first data line and adjacent to the first data line comprising a first embodiment corresponding to elected claims 1-7;

(2) the specifics of the LCD device comprising shielding layers that are black matrix layers, first shielding layer and first gate line formed of the same metal layer, first shielding layer and the second shielding layer having identical width, the second shielding layer being electrically connected to the first gate line, a second complimentary capacitor, and an alignment layer rubbing direction that is 40 to 50 degrees from the data line comprising a second embodiment corresponding to claims 21-28.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 21-28 are withdrawn from consideration

as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admission of Prior Art (AAPA) in view of Watanabe et al. (U.S. Patent No. 5,859,677, hereafter "Watanabe").

4. As to claim 1, AAPA discloses a liquid crystal display (LCD) device (fig. 1b, ref. 10) including a plurality of pixel areas, each pixel area comprising a pixels area (fig. 1b, ref. Ra) defined by a first transverse-extending gate line (fig. 1b, ref. 12a), a second transverse-extending gate line (fig. 1b, ref. 12b), a first lengthwise-extending data line (fig. 1b, ref. 14a), and a second lengthwise-extending data line (fig. 1b, ref. 14b), a pixel electrode formed overlying the pixel area (fig. 1b, ref. 16), a switching element (fig. 1b, ref. 18a; pg. 2, lines 7-8) electrically connected to the pixel electrode, and a first shielding layer (fig. 1b, ref. 22a) that is parallel to the first data line and adjacent to the first data line.

However, the reference fails to specifically disclose that the first light shielding layer is electrically connected to the first gate line.

Although it can be said that all the components within a pixel area is electrically connected to one another, Watanabe discloses an LCD device having a light shielding layer (fig. 17, ref. 116) that is clearly electrically connected to the gate line (fig. 17, ref. 111).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have a light shielding layer is electrically connected to the first

gate line since one would be motivated to provide potential stability (col. 7, lines 11-20), which serves to suppress liquid crystal disclination that becomes a cause for coarse image appearance and residual image (col. 3, lines 29-34). Ultimately, this serves to provide a display with enhanced display quality (col. 3, line 34).

5. As per claim 2, AAPA discloses the LCD device as recited above where the first shielding layer (fig. 1b, ref. 22a) overlaps the periphery of the pixel electrode (fig. 1b, ref. 16) to provide a first overlapping portion.

6. Regarding claims 3-4, AAPA discloses the LCD device as recited above having a second shielding layer (fig. 1b, ref. 22b) parallel to the second data line (fig. 1b, ref. 14b) and adjacent to the second data line that is not electrically connected to the first gate line.

7. As to claim 5, AAPA discloses the LCD device as recited above, however, the reference fails to specifically disclose that the space between the first data line and the periphery of the pixel electrode is a liquid crystal reverse region and the spacing between the second data line and the periphery of the pixel electrode is a liquid crystal non-reverse region.

Watanabe discloses an LCD where the space between the first data line and the periphery of the pixel electrode is a liquid crystal reverse region and the spacing

between the second data line and the periphery of the pixel electrode is a liquid crystal non-reverse region (abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the space between the first data line and the periphery of the pixel electrode being in a liquid crystal reverse region and the spacing between the second data line and the periphery of the pixel electrode is a liquid crystal non-reverse region since one would be motivated to provide potential stability (col. 7, lines 11-20), which serves to suppress liquid crystal disclination that becomes a cause for coarse image appearance and residual image (col. 3, lines 29-34). Ultimately, this serves to provide a display with enhanced display quality without residual images (col. 3, line 34; abstract).

8. Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA in view of Watanabe, and in further view of Song (U.S. Patent No. 6,788,356).

9. As per claim 6, AAPA, when modified by Watanabe, discloses the LCD device as recited above, however, the reference fails to specifically disclose the width of the first light shielding layer being larger than the width of the second shielding layer.

Song discloses an LCD where the width of the first light shielding layer is larger than the width of the second shielding layer (col. 5, lines 25-62).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the width of the first light shielding layer is larger than the

width of the second shielding layer since one would be motivated to minimize light reflected by the wirings in such a way that an aperture ratio is not negatively influenced (col. 5, lines 42-50). Furthermore, since side crosstalk is generated by the leakage of light irradiated at an angle in the area on the data line, forming a first light shielding layer having a greater width would block light to reduce lateral crosstalk (col. 6, lines 20-27).

10. Regarding claim 7, AAPA, when modified by Watanabe, discloses the LCD device as recited above, however, the reference fails to specifically disclose a repair line situated across the first shielding layer and the second shielding layer, where the repair ling partially overlaps the first shielding layer to provide a first repair point and the repair line partially overlaps the second shielding layer to provide a second repair point.

Song discloses an LCD having a repair line situated across the first shielding layer and the second shielding layer, where the repair ling partially overlaps the first shielding layer to provide a first repair point and the repair line partially overlaps the second shielding layer to provide a second repair point (col. 6, lines 41-67; fig. 1, ref. A, B, C, D).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have a repair line situated across the first shielding layer and the second shielding layer, where the repair ling partially overlaps the first shielding layer to provide a first repair point and the repair line partially overlaps the second shielding

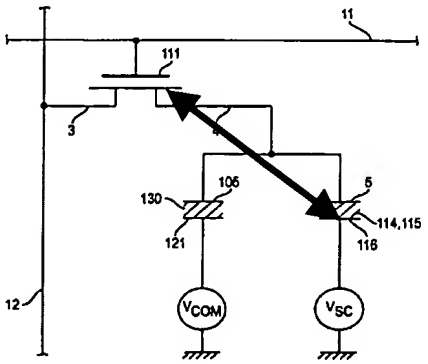
layer to provide a second repair point since one would be motivated to provide the most effective means of gate and data line repair (col. 6, lines 60-65; col. 1, lines 40-44).

Response to Arguments

11. Applicant's arguments filed September 13, 2005 have been fully considered but they are not persuasive.

Applicant's only argument is that the secondary reference, Watanabe et al., used in combination with AAPA "does not teach or suggest an LCD having a light shielding layer that is electrically connected to the gate line." Applicant asserts that Watanabe "merely teach[es] that the TFT back channel side conductive light shielding film 140 is connected to the TFT side conductive light shielding film 116. While this is true, it is noted that the claims recite that the first shielding layer is "electrically connected" to the first gate line. Although the light shielding layer (116) is not physically touching the gate line (111) in Fig. 17, the disclosure in the Watanabe reference clearly provides that the gate line (111) is "electrically connected" to the light shielding layer (116) in Fig. 11 (see arrow in the Fig. 11 reproduced below) and in col. 5, lines 1-45.

FIG. 11



As a result, Applicant's argument does not place the application in condition for allowance at this time.

Conclusion

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Y. Wang whose telephone number is 571-272-2304. The examiner can normally be reached on M-F, 8 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on 571-272-2293. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

George Wang
Patent Examiner
AU 2871
November 23, 2005

ANDREW SCHECHTER
PRIMARY EXAMINER